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APPLICATION FOR UNITED STATES PATENT

INVENTOR: DAVID A. WOODSUM

TITLE: "THE GRIPWHEEL DRIVER HANDLE ASSEMBLY AND METHOD OF ATTACHMENT TO OBTAIN UNIQUE PROPERTIES"

GRIPWHEEL DRIVER AND METHOD OF ATTACHMENT TO OBTAIN UNIQUE PROPERTIES

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation in part of application serial number 09/309,640 filed May11,1999 entitled Gripwheel Driver Assembly and Method Of Use.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to devices by which Driver Tools are actuated and handled.

2. Description of Prior Art

Ratchet Drivers are designed to eliminate both the need for disengaging from a fastener to return for another leg of spinning a driver tool's handle and the need for reconfiguring the grip to begin application of another spin of the driver's handle, operations necessary for rotation of a fastener in absence of a ratcheting mechanism. By eliminating the aforementioned operations, the time saved can be applied to just rocking the driver's handle back and forth with the hand, thereby increasing the number of rotational cycles and speeding rotation of the fastener. However, due to the fact that many fasteners are not snug enough to generate the frictional resistance required to cause the ratchet mechanism to ratchet, the opposing hand must, at times, be used to supply the additional frictional resistance. When a means is not provided to keep the hand poised in readiness while waiting to apply the resistance, applied only during return strokes, the hand must continually reconfigure on each successive cycle to correctly apply the added resistance, thus consuming much of the time saved by using the ratchet driver. If it becomes necessary for the fastener's spin to be reversed for any reason, the user must stop, reset the ratchet mechanism for reverse, spin the fastener, then stop, reset the ratchet mechanism for forward, and resume

operation; the resetting of the mechanism wastes an additional period of time. Furthermore, since the hand which is already positioned on the side of the driver's shank to apply the additional resistance "could", but being it lacks an efficient means to engage the shank and therefore "cannot" effectively continue spinning of the fastener, the return cycle is left unproductive and its potential not fully realized. In addition, when-a-hand-grips-the-shank-from-a-location-on-side-the-shank-to-spin-the-shank, it is not quite in a spacial orientation such that it can rotate a distance equal to the distance rotated by a hand gripping-on-a-driver's-handle-at-rear-of-the-driver, a rotating ratio of two to three. Therefore a driver tool would benefit from a-device-devised-to-be-mounted-upon-the-tool so to enable a user's hand to act the role of clutch, second possibly ratchet, mechanism which normally would be necessary inside the tool in order to have the tool's shaft move easily within the hand to achieve an alternating two handed continuous spin of the shank. Having such an attachment would position and enable the hand to manipulate the shank as needed, thus freeing-the-tool-space-inside-the-tool so permitting the installation of, and enabling the tool and attachment together to offer as platform to support, a means for stepping up the movement of the shank relative the movement of a hand which, while positioned along side the shank, spins the shank. Finally, since rocking the driver's rear-handle back and forth makes it difficult to hold the tool steady upon a fastener, the tool would benefit from an efficient means to guide the fore-portion of the tool against the work while operating the tool.

SUMMARY OF THE INVENTION

It is therefore an object of the invention to equip a driver tool, a tool having both a handle and shank extending perpendicularly from the handle, with a handle assembly used as both a second-handle, for holding and spinning the driver's shank, and as a guide means, used to aid in guidance of both the driver-tool and a second operating hand. The assembly is comprised of two separate positioned, shaped, utilized, and functioning halves, a hand utilized, discretely-independently-rotatable, slip-ring-type hand held guide half, and a rotatable, hand-operated,

driver-shank's, drive-means half called a drive-wheel herein. Both halves being mounted about the tool utilizing a method of attachment prescribed herein to enable a one portion of a hand grasping upon the guide half of the assembly to direct the tool's shank toward the work and also, through way of gripping upon the guide, secure the one hand portion both linearly fixed relative plus rotatable relative the shank as axis, thereby positioning an unencumbered second portion of the hand to simultaneously, at will, grasp for holding or grasp for spinning the hand-operated drive-wheel-half the assembly; and in addition, through the grasp of the drive-wheel also enable the drive-wheel to (1)be means for the hand's second portion to aid in guidance of the tool; (2)be means for the hand's second portion to supply additional frictional resistance for augmenting ratcheting of the driver when the driver is a ratchet type applied to loose-fitted-work; (3)be means for the hand's second portion to reverse the spin of the driver's shank without having to reset the ratcheting direction of the driver and; (4)be means for the hand's second portion to continue productive spinning of the shank during the opposing hand's unproductive driver-handle return strokes. To accomplish the aforementioned results the said guide and drive-wheel are structured as two separate shaped, positioned, utilized, and functioning halves, sized such that the distance from at lease one axially-parallel-outward-surface of the guide to axis of the guide is essentially the same as the distance from the overall axially parallel outward surface of the drive-wheel to axis of the drive-wheel, the driver-tool's shank to be used as the axis running perpendicularly through both components, and both components are sized plus positioned relative each other such that when placed in line about the driver's shank as axis, a hand is able to grasp both components simultaneously, and the hand-held-guide's shank-parallel outward-surface is shaped to enable holding in position on the guide any one portion of a hand grasping on the-shank-parallel-outward-surface of the said guide, while the drive-wheel's shank-parallel- outward-surface is shaped for enabling ease of simultaneously, along with the said holding-of-the-guide-by-a-one-portion-of-said-

hand, having the wheel intermittently gripped, held, spun, and released by the grasp of amy remaining-not-utilized-on-the-guide second portion of the same said hand; and additionally, the drive-wheel being a separate utilized and functioning half of the assembly, is shaped with bluntly curved surfaces substantially uniformly symmetrical about the axis of the wheel, so enabling the wheel to rotate within the grasp of such a releasing, not-utilized-on-the-guide, second portion of the said hand, so that the, not-utilized-on-the-guide, second portion of the said hand is able to remain in position for gripping the drive-wheel, and yet also is able to rotate about the drive-wheel near or lightly touching the drive-wheel's surface, due to anchoring through linkage with said hand's one portion which remains utilizing the guide, the guide in addition being discretely independently free-to-be-spun. The assembly's method of attachment comprises, having the slip ring type hand-held-guide slipped into place "loosely discretely, axially rotatably, girdling-the-said-tool's-shank so as free from axially-rotatably-engaging the tool's shank, the shank used as axis for the guide's rotation by running perpendicularly through the guide, the guide linearly retained in the guide's location-about-the-shank, the location being adjacent-in-line-forward the drive wheel half the assembly, which-also-rings-the-shank, the guide thereby being nearer the shank's work end than the wheel, the guide being as aforesaid girdling, also being discretely independently free-to-be-spun unlimited in distance and/or direction relative the driver's shank as axis for the spin and relative the assembly's drive-wheel as a separate utilized and functioning half of the assembly; and in-order-to-be-as afore-described the guide has the shank inserted "through a bore through the guide, the bore larger in diameter than the shank and piercing through the guide", the shank inserted to a distance through the guide's bore so rearward of in line with the shank's work-end, such that the shank is running perpendicularly lengthwise through the guide's bore, and the shank is running perpendicularly-lengthwise-through-the-guide's-bore either by being inserted "alone" perpendicularly through the guide's bore, " the shank immediate the guide", or by being inserted

perpendicularly together with, and as running lengthwise perpendicularly through another component inserted through the guide's bore, the guide's bore as girdling the other component at the same location lengthwise on the other component as where the shank is running perpendicularly lengthwise through the other component, "thus the shank is still, as afore-described, running perpendicularly lengthwise through the guide"; and additionally the assembly's method of attachment comprises having the drive-wheel-half-the-assembly " ringing so axially rotatably encircling utilizing a manner of "engaging to spin" the said tool's shank, the shank as being perpendicularly running through both the drive-wheel and the guide, while the shank also is used as axis for the wheel's rotation", the wheel as being linearly retained in its location about the shank, the location being adjacent-in-line-rearward the guide-half-the-assembly and further away from the shank's work-end than the guide which-also-girdles-the-shank, the wheel thereby being forward the fore-portion of the tool's handle and nearer the fore-portion than the guide, the tool's handle having always been a part of the tool extending from plus engaging with the tool's shank-portion emanating out from opposite-the-side-of -the-assembly-from-the-side-facing-the-shank's-work-end, the handle being part of the driver-tool for spinning the shank, the wheel being as, aforesaid-engaging, also being such that will spin the shank when spun while the guide is being such that will spin discretely independent the wheel and shank when spun, thus the driver's handle is in line rearward the drive-wheel, the drive-wheel is in turn, in line juxtaposing rearward the guide, and the guide is in turn, in line rearward the work-end of the shank; and both the gripwheel halves, the guide and wheel, are mounted advantageously positioned near enough each other between the fore-portion of the driver's handle and the driver-tool shank's work end, such that a single hand is able to simultaneously grasp both the guide and drive-wheel utilizing them as bi-longitudinally supporting halves. And at least one retainer is placed, a retainer in front of the hand-held-guide's side which faces the shank's work end, to help retain the components in assembled operating position. The manner of the wheel's engagement with the shank to spin the shank can be in either

one of two ways, one by having the wheel ring the shank so as to encircle "fixed" to the shank or two by having the wheel ring the shank so as to encircle " rotatable relative the shank", the shank being as axis for the wheel's rotation therefore being inserted perpendicularly as "loosely-fitted" through a bore through the wheel, the shank's insertion through the bore being either as "immediate" the wheel or by way of running perpendicularly lengthwise through another component inserted through the drive-wheel's bore, but the wheel still engaging the shank by also being dressed to engage the shank through linkage by way of a drive-train to spin the shank. The means utilized to effect the drive-wheel's engagement with the shank can be of any type including 1, having the shank's outside surface expanded and reshaped to form the drive-wheel component, by 2, dressing the inner surface of a bore through the drive-wheel with means which causes the wheel to grip the shank's surface so that the drive-wheel can have the shank inserted through the bore with the means causing the shank to be fixed to the wheel, or by 3, having a geared-internal-drive-train attached to the wheel and linking the wheel such that engaging the shank as like when the wheel engages by the manner in which the wheel is rotatable relative the shank, for example, a train as comprised of a loosely girdling the shank beveled-driving-gear centered and fixed to the drive-wheel's internal face, the driving-gear's teeth engaging a beveled-idler-gear able to spin being mounted at its center about an axle affixed to the driver handle's fore-portion, the same beveled-idler-gear having its teeth engaging a step-up-beveled-gear able to spin being mounted at its center about an axle affixed to the driver handle's fore-portion, the step-up-beveled-gear engaging a ringing the shank while engaging the shank driven-gear; and the aforementioned gearing arrangement can be repeated in bilaterally symmetrical fashion on the shank's opposite side. Such a drive-train would be for increasing the speed of the shank's spin relative the speed of the drive-wheel's spin, thus compensating for any difference in the ability of one hand to spin the drive-wheel versus the other hand to spin the driver's rear-handle, a difference due to spacial

orientation. The manner of guide's being as discretely independently freely-able-to-be-spun, unlimited in distance and direction, including relative both the driver's shank and the assembly's drive-wheel, can be in either one of two ways, one way being having a bore through the guide sized so that the shank can be directly inserted loosely fitted through the bore, the shank as "immediate" of the guide, thereby the shank acts as axle for the guide which, being also as a discretely separate component, is thus discretely independently freely-able-to-be-spun unlimited in distance and direction relative the driver's shank and the assembly's drive-wheel; or the guide can also be discretely independently freely-able-to-be-spun-relative-the-shank-and-drive-wheel by having another component inserted loosely fitted through the guide's bore, the other component in turn ringing the shank at the same location relative the length of the other component as where the other component is inserted through the guide's bore, the guide thus encircles the other component yet, consecutively, also encircles the shank , the guide being freely-able-to-be-spun-including-relative-both-the-shank-and-the-wheel . As for example, the bore could be sized so that an extension of the drive-wheel's hub can be inserted loosely fitted into the guide's bore, the drive-wheel's hub, as inserted through the bore, would then act as axle for the guide, the guide thus, as a discretely separate component, is thereby discretely independently freely-able-to-be-spun relative the hub; however the shank would, in turn, be inserted running lengthwise perpendicularly through the hub, the shank's insertion through the hub being at the same location relative the length of the hub as the hub is running through the guide, thus the guide as a discretely separate component is enabled to be discretely independently freely-able-to-be-spun relative the driver's shank and also relative the wheel's hub plus relative the drive-wheel, which is a separate half of the assembly, separate from the guide but unitized with the hub. Although the manner of attaching the guide to a tool can be either one of the two ways, the means to effect the attachment as such can be only one, that is by having the guide rotationally unengaged, not engaged, either by direct and/or by indirect means, to

the shank as axis for the rotation.

As described heretofore the invention provides the driver tool with a second handle that is both a guide and a second drive-means combined in an assembly form for handling the said tool more efficiently, augmenting operation of the said tool, and increasing the distance the tool's shank can be turned during application cycles. The assembly's capability of providing such as afore-described is due to having the two separate yet bilaterally supporting halves, the forward half of the handle assembly, being the slip-ring-type hand held guide half, mounted to spin as discretely-independently freely about the tool's shank, and the rear half of the assembly, being the hand-operated drive wheel half, which is mounted to engage the shank for holding or spinning the shank, both halves securely positioned location fixed about/ and-as-relative a driver-tools shank while also configured to be separately yet simultaneously utilized by a single hand.

A preferred method of operating the assembly while mounted about a driver tool would be to have a user clutch the slip ring type hand-held-guide between a thumb and at least one finger of a hand to direct the tool's shank against work and, as needed, simultaneously bear down with the free portions of the same hand to grasp and hold or grasp and spin the shank engaged, hand-operated drive-wheel for holding or spinning the shank. The grasping and holding or grasping and spinning may be timed to occur during return strokes of the user's other hand which operates the driver's handle. Clutching the hand-held-guide by a portion of a hand to guide the shank also serves to hold the unencumbered portions of the same hand in a position to utilize the drive-wheel. The assembly in whole form is effective for augmenting the ratcheting of a ratchet driver applied to loose fitted work, via grasping and holding of the hand operated drive-wheel, when the holding is timed to occur during return strokes of the driver's handle. But additionally, the assembly can be used with any driver fitted with the invention, to further spin the driver's shank during application cycles through spinning the hand operated drive-wheel on normally unproductive return-stroke-

periods of the driver's-handle.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings identical components are identified with identical reference numbers and lettering:

FIG. 1 is an exploded perspective side view of the gripwheel driver assembly, the present invention, illustrating shapes which can be used for the slip ring type hand-held-guide and hand-operated-drive-wheel which fall within the scope of the invention as described; in addition, the figure helps illustrate the attachment method of the gripwheel assembly, which includes having the guide discretely independently freely-able-to-be-spun while girdling a driver's shank, and helps to illustrate such attachment by illustrating a one of the two alternate manners in which the guide can be enabled attachable in accordance with the required method, the manner illustrated in FIG. 1 being the slip ring type hand-held-guide is configured to loosely discretely girdle a driver-tool's shank, by being "immediate" of the shank, through way of a bore through the guide sized so that the shank can be directly inserted loosely fitted through the guide's bore, the specific means enabling the guide be freely able to be spun, being there is only one possible, is having the guide not enabled to axially-rotatably engage the shank inserted through the guide's bore by having the bore smooth enough and loose enough about the shank so as not to engage but yet still permit the guide to be linearly retained in the location about the shank by way of a retainer such as the retainer ring illustrated in the FIG. 1; and the FIG. 1 helps further to illustrate the assembly's attachment method which includes having the drive-wheel ringing so encircling "engaging" a driver's shank, by illustrating one of the two alternate manners in which the "drive-wheel" can be enabled attachable in accordance with the required method, the manner shown in FIG. 1 being having the wheel configured to ring a shank "fixed-to-the-shank" thereby engaging the shank, the specific

means in FIG. 1 enabling such fixed engagement being jagged surface ridges inside a piercing through the drive-wheel bore, the bore sized small enough for the drive-wheel to be tightly press fitted onto a shank, the shank being inserted through the bore, thereby the wheel rings the shank while the bore's ridges dig into the shank's surface fixing the wheel to the shank, but any one out of several means can be used to fix the wheel to the shank;

FIG. 2 is an exploded perspective side view of the gripwheel driver assembly, the present invention, illustrating the alternate manner to that illustrated in FIG. 1 for enabling the slip ring type hand-held-guide, half the assembly, to be mounted in accordance with the required method comprising having the guide "loosely girdling-a-driver's-shank discretely independently freely-able-to-be-spum including relative the shank and the assembly's drive-wheel"; and the manner that's illustrated in FIG. 2 which is in accordance with the required method, yet alternate to that in FIG. 1, is to have the guide enabled to loosely girdle a driver's shank through way of " loosely-girdling-another-component at a location lengthwise on the other component whereby the shank is to be inserted perpendicularly lengthwise through the other component"; and additionally the FIG. 2 also illustrates a manner for enabling the other half the assembly, the "drive-wheel", to be mounted in accordance with the required method which furthermore comprises having the wheel "ringing-a-driver's-shank engaging to spin the shank"; and out of two manners usable in accordance with the method, the FIG. 2 illustrates the same manner as utilized in the FIG.1, the manner being to have the wheel enabled to ring-a-driver's-shank "fixed to the shank", but the FIG. 2 additionally illustrates that although the drive-wheel is enabled to be mounted as "fixed to a shank", it is possible for the specific means of fixing the wheel to the shank to be in any one out of several ways, exemplified in the FIG. 2 by having the means, while similar to that shown in FIG. 1, additionally incorporate, as part of the means, a unitized construction of the drive-wheel with a hub;

FIG. 3 is an unexploded, external, side plan perspective view of the gripwheel-driver-

assembly of FIG. 1 and/or of FIG. 2 illustrating both the gripwheel's slip ring type hand-held-guide and hand operated drive-wheel as utilized juxtaposed adjacent-in-line such that a hand is able to grasp both the components simultaneously, and reveals that the exploded depictions of both the FIGURES 1 and 2 are essentially of the same device in overall structure and use when the components are assembled as in compliance with the required method of attachment, the attachment method permitting them to be utilized as prescribed;

FIG. 4 is a partial cross sectional front view of the gripwheel assembly of FIG. 2 having the embodiment placed ready for operation about a phantom outlined portion of a driver tool's shank; the figure reveals the assembly mounted in accordance with the required method of attachment comprising having the guide half the assembly, "loosely discretely, axially-rotatably, girdling a-driver-tool's-shank so as free-from-axially-rotatably-engaging the tool's shank, the shank being used as axis for the guide's rotation by running perpendicularly through the guide, the guide linearly retained in the guide's location-about-the-shank, the location being juxtaposed adjacent-in-line-forward the drive wheel half the assembly, which-also-rings-the-shank, the guide thereby being nearer the shank's work end than the wheel, the guide as, aforesaid-girdling, also being as discretely independently free-to-be-spun unlimited in distance and/or direction including relative the driver's shank as axis for the spin and relative the assembly's drive-wheel as a separate utilized and functioning half of the assembly, the attachment of the guide being by way of having the shank inserted perpendicularly through a bore through the guide, the bore larger in diameter than the shank and piercing completely through the guide"; and, the FIG. 4 additionally reveals the assembly's attachment, in accordance with the required method, as also comprising having the wheel half the assembly "ringing so axially rotatably encircling, utilizing a manner of engaging-to-spin, the said tool's shank, the shank being both perpendicularly running through the wheel and used as axis for the wheel's rotation, the wheel linearly retained in its location about the shank, the

location being juxtaposed adjacent in-line-rearward the guide-half-the-assembly and further away from the shank's work-end than the guide, which-also-girdles-the-shank, the wheel thereby being forward the fore-portion of the tool's handle and nearer the fore-portion than the guide, the tool's handle extending from plus engaging with the shank's portion emanating from opposite-the-side-of-the-assembly-from-the-side-facing-the-shank's work-end, the wheel being as, aforesaid-engaging, also being such that will spin the shank when spun while the guide is being such that will spin discretely independent the wheel when spun", thus as shown in FIG. 4, the driver's handle is in line rearward the drive-wheel, the drive-wheel is in turn, in line juxtaposing rearward the guide, and the guide is in turn, in line rearward the work end of the shank; and the FIG. 4 illustrates the gripwheel mounted as in accordance with the aforesaid method, accomplished by the manner and means in which the guide and drive-wheel are dressed to do so in FIG. 2;

FIG. 5A is a partial cross sectional front view of a gripwheel driver assembly with the embodiment placed ready for operation mounted about a phantom outlined portion of a driver tool, but differs from FIGURES 1, 2 and 4 by illustrating the only alternate manner, to that illustrated in FIGURES 1, 2 and 4, of having the "drive-wheel" enabled for attachment in accordance with the required method of attachment, the manner in FIGURES 1, 2, and 4 being as enabled to ring a driver's shank "fixed directly to the shank" to encircle-engaged with to spin the shank; the alternate manner in FIG. 5A being enabled-to-ring-a-driver's-shank, either as "immediate" the shank or by way of ringing another component ringing the shank, such that the ringing is loosely so permitting the wheel to be spun about/relative the shank as an axis for the spin, the wheel still engaging the shank but by linkage through way of a drive-train, the specific means utilized in FIG. 5A for engaging the shank being a-geared-internal-drive-train;

FIG. 5 b is a partial-cross-section side view of the driver's rear-handle-fore-portion 25, the fore-portion depicted in the FIG. 5A front view, and reveals the outside housing 40 of the fore-

portion 25 plus the section that was cutaway, the cutaway section still shown but in phantom; the figure helps to further illustrate the alternate manner revealed in FIG. 5A for having the wheel engage the shank to spin the shank, the alternate manner being to engage the shank by linkage through a drive-train, the specific illustrated means being a geared-internal-drive-train; but note that FIG. 5 b illustrates only components which can be used to accomplish attachment of an assembly's drive-wheel, and none are intrinsic parts of the assembly itself;

FIG. 6 is a side plan perspective view of the gripwheel driver assembly, the assembly of either FIG. 2, FIG. 4, or FIG. 5A, but in FIG. 6 the gripwheel is shown in whole form mounted unexploded about a driver-tool, the tool having both alternate embodiments of its rear-driver-handle-fore-portion, 25 of FIG. 4 and 25 of FIG. 5A, one used with the assembly's drive-wheel engaging the shank by manner of fixing the wheel to the shank, the other used with the assembly's drive-wheel engaging a shank by way of a drive-train, both fore-portions being depicted in phantom, one superimposed over the other, while attached to the rest of a driver's handle shown in phantom;

FIG. 7 is a side plan view of a gripwheel driver assembly mounted about a driver tool illustrating both the work end of the tool and the operating end of the tool, revealing that the work end of the tool is the work end of the driver-tool's shank, the shank's work end in FIG. 7 also being the free end of the shank; additionally, the figure illustrates the operating end of the tool, and in FIG. 7 the operating end of the tool also is the operating end of the driver-tool's handle;

FIG. 8 is a bottom plan perspective view of the gripwheel driver assembly shown isolated from a driver tool and is revealing both the internal face of the drive-wheel and a bore through the drive-wheel;

FIG. 9 is a top plan perspective view of the gripwheel driver assembly shown isolated from a driver tool and is revealing the bore through the guide;

FIG. 10 is a side plan exploded view of the gripwheel-driver-assembly illustrating a stage in a process which could be utilized to attach the device about a driver tool's shank, a stage whereby the slip ring type hand-held-guide is being slipped into place loosely discretely girdling the shank of the driver-tool by perpendicularly inserting the shank through a-bore-through-the-guide, the bore of a type as illustrated in FIG. 9;

FIG. 11 is a side plan view of a type ratchet driver tool, a tool from a genre of tools having a handle with a shank extending perpendicularly from the handle, the tool being the preferred type upon which a gripwheel driver assembly would be mounted, the genre being the genre of tools upon which a gripwheel can be mounted; the tool is shown isolated from the gripwheel-driver-assembly, and

FIG. 12 is a sequence of side plan views revealing the recommended hand operations for utilizing the gripwheel driver assembly as mounted about a driver tool and includes arrows denoting the direction of forces applied by the hand to the assembly and through the assembly to the tool.

DETAILED DESCRIPTION OF THE INVENTION AND METHOD OF ATTACHMENT

FIG. 1, an exploded perspective side view of the gripwheel driver assembly, the present invention, reveals that the assembly is comprised of two halves, the slip ring type hand-held-guide half 13 and the hand operated drive-wheel half 14. As illustrated in the FIG. 1, the guide and drive-wheel halves are structured as separate, positioned, shaped, utilized, and functioning component-parts-that-are-used-in-combination-as-the-assembly, parts that are sized such that the distance from at lease one axially-parallel-outward-surface of the guide to axis of the guide is essentially the same as the distance from the overall axially parallel outward surface of the drive-wheel to the axis of the drive-wheel, a driver-tool's shank to be utilized as axis by running perpendicularly through 30 and 31 of the guide and wheel, and both components are sized and

positioned such that, as placed im-line-about-a-shank-as-axis, a hand is able to grasp the two components simultaneously, and the hand-held- guide's shank-parallel-outward-surface, illustrated in the FIG. 1 by showing the guide's shank-parallel-outward-surface concavely shaped and sharply curved, is shaped to enable holding in position on the guide 13 any portion of a hand-grasping-on-the-shank-parallel-outward-surface of the said guide 13, while the drive-wheel's shank-parallel-outward-surface is shaped for ease of being, simultaneously, along with the holding of the guide 13 by a one portion of a hand, the drive-wheel intermittently gripped, held, spun, and released by the grasp of any remaining not utilized on the guide, second portion of the same said hand, as illustrated in the FIG. 1 by having the wheel's shank parallel outward surface convexly shaped and bluntly curved, and additionally, the drive-wheel 14, being a separate utilized and functioning half of the assembly, has its bluntly-curved-shank-parallel-outward-surface substantially uniformly symmetrical about the axis of the wheel, to enable the wheel to rotate within/as relative the grasp of the releasing, not-utilized-on-the-guide, second portion of the said hand such that the, not-utilized-on-the-guide, second portion of the said hand will be able to remain in position for gripping the wheel yet also will be able to rotate about the drive-wheel, near or lightly touching the drive-wheel's surface, due to guidance by anchoring through linkage with the said hand's one portion which remains utilizing the guide, the guide additionally being discretely independently free-to-be-spun. And also, as the FIG. 1 helps illustrate, the guide 13 is enabled to be mounted about a driver's shank in accordance with the required method of attachment which comprises having the guide half the assembly 13 "girdling so as free from axially-rotatably-engaging a driver-tool's shank , the shank used as axis for the guide's rotation by way of having the shank loosely-discretely inserted into, as rotatable relative while running perpendicularly-through, a bore 30 through the guide, the guide linearly retained in its location-about-the-shank, the location being juxtaposed adjacent-in-line-forward the drive wheel half the assembly, which-also-rings-the-shank, the guide thereby being nearer the shank's work end than the wheel, the guide as, aforesaid-

girdling, also being discretely independently free to be spun unlimited in distance and/or direction relative the driver's shank as axis for the spin and relative the assembly's drive-wheel as a separate utilized and functioning half of the assembly". And to be mounted in accordance with the aforesaid required method the guide is "enabled", such as illustrated in FIG. 1, attachable by using one out of only two alternate manners possible in which the guide can be enabled attachable as aforesaid, the manner used in FIG. 1 being having the bore 30 through the guide sized such that the diameter is large enough to permit the shank to be inserted "loosely-fitted perpendicularly through the bore" so the guide will girdle loosely as "immediate of", to spin directly upon the-shank-as-an-axil, the specific means utilized effecting the guide's being freely able to be spun, regardless of the manner used, being there is only one means, is to have the inner surface of the guide's bore axially-rotatably smooth enough while the bore is loose enough about the shank so that the guide will not rotationally engage the shank-as-an-axil inserted through the guide's bore but yet permit the guide to still be linearly retained in its location about the shank by a retainer such as retainer ring 16 FIG. 1. And lastly, as the FIG. 1 also helps to illustrate, the hand operated drive-wheel 14 is enabled to be mounted about a driver's shank by the required method of attachment which comprises having the wheel-half-the-assembly "ringing so axially rotatably encircling, utilizing a manner of engaging to spin the driver-tool's shank, the shank being both perpendicularly running through the wheel and used as axis for the wheel's rotation, the wheel linearly retained in its location about the shank, the location being juxtaposed adjacent in-line-rearward the guide-half-the-assembly and further away from the shank's work end than the guide, which-also-girdles-the-shank, the wheel thereby being forward the fore-portion of the tool's handle and nearer the fore-portion than the guide, the tool's handle extending from plus engaging with the shank's portion emanating from opposite-the-side-of-the-assembly-from-the-side-facing-the-shank's work-end, the wheel being as, aforesaid-engaging, therefore being such that will spin the shank when spun, while the guide is being such

that will spin discretely independent the wheel when spun". And to be mounted in accordance with the aforesaid required method, the wheel is "enabled", such as illustrated in the FIG. 1, attachable by way of using one out of only two alternate manners in which the drive-wheel can be mounted as such, the manner used in FIG. 1 being having the wheel ringing-the-shank-directly-fixed-to-the-shank so the wheel " encircles-engaged-with-to-spin-the-shank", but the specific means utilized to effect such fixed engagement can be any one of several, the one used in FIG. 1 being means of jagged ridges 15a inside a through-the-drive-wheel bore, the bore sized small enough for the shank to be tightly press fitted perpendicularly through the bore, the jagged ridges thus digging into the shank's surface thereby fixing the wheel to the shank. Such direct engagement for the drive-wheel enables the wheel to directly spin the shank upon rotation of the wheel.

FIG. 2, another exploded perspective side view of the gripwheel driver assembly, the present invention, illustrates the alternate manner of enabling the guide 13 to be mounted about a driver's shank, a manner alternate to the manner illustrated in FIG. 1, and which, when utilized in lieu of the manner illustrated in FIG. 1, still permits attachment of the guide in accordance with the required method, the required method comprising having the guide "girdling-a-driver's-shank discretely independently freely-able-to-be-spun including relative the shank and the assembly's drive-wheel", the-manner-alternate-to-the-manner-in-FIG. 1-but-still-enabling-attachment-in-accordance-with-the-required-method being the guide 13 configured to "loosely girdle the shank through way of loosely-girdling-another-component-ringing-the-shank"; and the alternate manner in the FIG. 2 does render attachment in accordance with the required method by means of having the drive-wheel's hub extended, the hub extension 18 inserted through a bore 30 through the guide 13, the bore sized large enough for insertion of the hub to be as " loosely fitted perpendicularly through the bore 30", thereby the guide "loosely-girdles-the-wheel's-hub-18 discretely independently free-to-be-spun unlimited in distance and direction relative the hub", but the hub18

in turn is enabled to be mounted "ringing-a-driver's-shank so encircling-as-engaged-with-the-said-shank", the hub's ringing of the shank being at the same location relative the hub's length as where the hub is being girdled by the guide, and so to ring the shank, the hub 18 in FIG. 2 is configured having a bore 31 through the hub 18 to be used for insertion of the shank such that press fitted through the bore, the bore possessing internal surface ridges for digging into so fixing the hub upon thereby engaging the shank, thus the guide 13, through way of a driver-shank's insertion through the hub's bore 31, will, as in accordance with the required method of attachment, "loosely-discretely-girdle-a-driver's-shank, the guide discretely-independently-free-to-be-spun, unlimited in distance and direction including relative the shank as axis for the guide's spin and relative the assembly's drive-wheel as a separate-utilized and discretely-functioning half of the assembly" but in addition relative the wheel's hub as axil-for-the-guide's-spin unitized with the wheel so to be "part-of-the-wheel" yet being "pierced-through"-by-the-shank, axis-for-the-guide, thus shank within hub inserted through the guide's bore; and the FIG. 2 also illustrates how the guide can be linearly retained, functional as aforedescribed, location-fixed-about-the-shank, by showing a retaining means such as ring 17 of FIG. 2 which can be clipped onto the end of the hub blocking the linear movement of the guide. And the FIG. 2 additionally illustrates one manner, one-out-of-either-of-two-manners-usable, the one being same one as illustrated in FIG. 1, for enabling the wheel to be mounted engaging the shank in accordance with the required method, the required method comprising having the drive-wheel " ringing-and-engaging-the-shank to spin the shank", the one manner illustrated in FIG. 2 enabling attachment in accordance with the required method being "having the wheel enabled to be fixed-to-a-shank", but the specific means shown in FIG. 2 and utilized to execute the manner enabling the wheel to be "fixed to a shank", as being in that the means is different-from-FIG.-1 revealing the means could have been any one out of several yet still be in accordance with the required method of attachment, for example the wheel could have been glued onto-ringing the shank, or press fitted onto-ringing the shank like in FIG. 1, or formed-out-

of-an-expanded-portion-of-the-shank-itself and thereby onto-ringing the shank, etc., is in the FIG. 2 by way of incorporating the use of a unitized drive-wheel and hub construction, the hub18 engaging the shank by utilizing the same manner and means as the wheel used in FIG. 1 for engaging the shank, the manner being "fixed" to the shank and the means being by way of a bore like the bore through the wheel in FIG. 1, but as piercing through the hub, the bore still possessing internal surface ridges which will be caused to dig into a shank's surface when the bore is tightly press fitted onto a shank, but when the hub 18, utilizing the bore, is "fixed" onto the shank, so will the wheel be fixed onto the said shank and thus the wheel also will be engaging-upon-the-said-shank, all through way of the unitized construction. A cut away of the hub in FIG. 2 reveals the shank engagement means 15a.

FIG. 3, an external side plan perspective view of the gripwheel driver assembly, shows the gripwheel of either FIG. 1 or FIG. 2 as assembled and ready to be mounted about a driver tool. As illustrated in figure 3, when either gripwheel assembly of FIG. 1 or FIG. 2 is assembled for utilization about a tool as in FIG. 3, both figures are depicting the same gripwheel overall structure, use, and barring various physical means applied as applications to the assembly's for attaching the assembly's, such as 30 and 31 of FIGURES 1 and 2; 15a of figures 1, 2, and 4; 16 of FIGURES 1 and 4; 17 of FIGURES 2 and 4; 15 D of FIG. 5A, the embodiment of each assembly is configured to be mounted, in accordance with the same-required-method-of-attachment so thereby attached about a driver's shank positioned in the fashion of an axis for the assembly.

FIG. 4, containing a partial cross sectional front view of the gripwheel driver assembly of FIG. 2, shows the assembly placed ready for operation mounted about a phantom outlined portion of a driver tool. Viewing the FIG. 4 while reading the description which is to follow will help illustrate the method of attaching the gripwheel upon a driver tool. The gripwheel's attachment method comprises requiring-the-gripwheel-utilize-an-area-on-the-tool's-shank-33 that, as seen in FIG. 4, is "between the driver-handle's fore-portion 25 and the work end of the driver's shank 33",

94 the work end of the shank in FIG. 4 also being the free end of the shank; utilizing the required area
94.01 on the shank along with other requirements that are to follow will permit the gripwheel
94.011 functionality as described herein. So continuing the description, additionally as seen in FIG. 4, the
94.02 method requires the guide half 13 of the gripwheel assembly to be such that mounted-about-the-
94.021 driver's-shank-33 utilizing the afore-described area on the tool's shank but, describing the method
94.022 further in greater detail, the guide is mounted such that "loosely discretely, axially-rotatably,
94.03 girdling the shank 33 so as free from axially-rotatably-engaging the tool's shank, the shank used as
94.04 axis for the guide's rotation, as like the shank 33 in FIG. 4, by running perpendicularly through the
94.05 guide, the guide linearly retained in the guide's location-about-the-shank by being sandwiched in
94.051 position between other components which block the linear movement of the guide, other
94.052 components such as the drive-wheel 14 in FIG. 4 which is on one side of the guide and a retainer
94.053 ring such as 17 in FIG. 4 which is on the other side of the guide, and the location of the guide about
94.06 the shank, as in FIG. 4, is juxtaposed adjacent-in-line-forward the drive wheel half the assembly,
94.07 14 FIG. 4, which-also-rings-the-shank 33, the guide 13 FIG. 4 also being nearer the shank's work
94.08 end than the wheel 14 FIG. 4, the shank's-work-end being like the shank's-end 28 revealed in FIG.
94.081 6, and the guide, being as afore-described girdling, is therefore being such that discretely
94.09 independently free-to-be-spun unlimited in distance and/or direction relative the driver's shank as
94.10 axis for the guide's spin and relative the assembly's drive-wheel as a separate utilized and
94.11 functioning half of the assembly, the attachment of the guide as such as afore-described is through
94.111 way of inserting the shank 33 perpendicularly-through a bore through the guide, like bore 30
94.12 revealed in FIG. 2, the bore larger in diameter than the shank and piercing through the guide, the
94.13 shank, as 33 in FIG. 4, inserted to a distance through the guide's bore so the bore is rearward of in
94.14 line with the shank's work end 28"; now turning attention to the drive-wheel, the method also
94.141 requires the drive-wheel half 14 of the gripwheel assembly, as in FIG. 4, to be such that mounted-
94.142 about-the-driver's-shank-33 utilizing the afore-described required area on the tool's shank but,

describing further the method in greater detail, the wheel is mounted such that "ringing so axially rotatably encircling, utilizing a manner of engaging to spin, the said driver tool's shank 33, the shank being both perpendicularly running through the wheel 14 and used as axis for the wheel's rotation, the wheel 14 linearly retained in its location about the shank 33 by also being sandwiched in position between other components which block the linear movement of the wheel, the location being juxtaposed adjacent in-line-rearward the guide-half-the-assembly13 and farther away from the shank's work end 28 than the guide 13 FIG. 4, which-also-girdles-the-shank, the wheel thereby being forward the fore-portion 25 FIG. 4 of the driver tool's handle 27, 27 as revealed in FIG. 6, and nearer the handle's fore-portion than the guide 13, the tool's handle 27 extending from plus engaging with the end of the shank 33 emanating from opposite-the-side-of-the-assembly-from-the-side-facing-the-shank's work-end 28, the wheel being as, aforesaid-engaging, also being such that will spin the shank when spun while the guide is being such that will spin discretely independent both the wheel and shank when spun", thus, in accordance with the required method of attachment, the driver's handle is inline rearward the drive-wheel, the drive-wheel is in turn, inline juxtaposing rearward the guide, and the guide is in turn in line rearward the work end 28 of the shank 33; and, lastly as required by the attachment method, both gripwheel halves, the guide 13 and the drive-wheel 14 are mounted "advantageously positioned near enough each other between the fore-portion of the driver's handle 25 and the driver-shank's work end 28, such that a single hand is able to simultaneously grasp both the guide 13 and the drive-wheel 14 utilizing them as bi-longitudinally supporting gripwheel assembly halves". Now, while as being such that mounted in accordance with the afore-described required method, the gripwheel shown in the FIG. 4 is such that "as attached" through utilizing both the "manner" of the guide's attachment and the "manner" of the wheel's attachment as illustrated in FIG. 2, the guide's manner of attachment in FIG. 2 being having the hand-held-guide 13 loosely-girdling-the-shank-33 through way of "loosely-girdling-another-

component" the other component being the drive-wheel's hub18, "the girdling-of-the-shank-through-way-of-another component" being through way of having the shank 33 perpendicularly inserted running longitudinally through the hub 18, the hub 18 being in turn perpendicularly inserted running through the guide's bore 30, thus both the shank and the hub are simultaneously running through the guide's bore, the shank being as running longitudinally through the hub at the same location relative the length of the hub as the hub, in turn, is longitudinally running through the guide's bore 30, thus the guide loosely girdles the shank through way of loosely girdling another component, the other component being the hub 18; and the manner of attaching the "drive-wheel" in the FIG. 4, like in the FIG. 2, is by having the wheel 14 ringing so as "fixed" to the shank through way of the unitized construction of the drive-wheel 14 with a hub 18, the hub being fixed onto the shank 15a FIG. 4 by being press fitted onto the shank, thus both the hub and the wheel, together as unitized, are fixed-onto-the-shank plus engage-the-shank by way of the hub's being fixed 15a onto the shank 33, and each of the aforementioned manners shown in FIG. 4, the manner of attaching the guide and the manner of attaching the wheel, is just a one out of two possible manners for each the guide and the wheel, altermate manners which can be utilized and still have the guide and the wheel mounted in accordance with the required method of attachment, the gripwheel thus appearing mounted about a shank as illustrated in FIG. 4. And lastly as seen illustrated in FIG. 4, when the drive-wheel utilizes the manner-of-engaging the shank by being fixed to the shank, the engagement manner doesn't require any necessary involvement of the driver-handle's fore-portion 25.

FIG. 5A, a partial cross sectional front view of the gripwheel driver assembly, has the assembly mounted ready for operation about a phantom outlined portion of a driver tool, but while FIGURES 1, 2, and 4 illustrate the manner of the drive-wheel's engagement-with-a-shank-to-spin-the-shank as being by way of the wheel's ringing "fixed to" thus engaging the shank, the FIG. 5A

illustrates the alternate engagement manner of the drive wheel, alternate to that illustrated in FIGURES 1, 2, and 4, the alternate being to have the wheel 14 FIG. 5A loosely ring the shank 33 FIG. 5A so spinable relative the shank, the wheel's-ringing-the-shank being either "immediate of the shank " or by way of "loosely ringing another component ringing the shank", like the afore-described manner of the guide's girdling the shank, but while the wheel 14 engages the shank through linkage by way of a drive-train; the specific means utilized to illustrate the train in FIG. 5A and which effects the engagement is a geared-internal-drive-train 15D. And the FIG. 5A also illustrates the preferred component parts of the geared-internal-drive-train as being the following: a beveled driving-gear 20, loosely girdling the shank 33 but centered and fixed to, therewith directly-engaging 15b upon the drive-wheel's internal face 32 revealed in FIG. 8; the beveled driving-gear 20 FIG. 5A engaging a beveled idler-gear 21, able to be spun as mounted at its center about an axil affixed to the driver handle's fore-portion 25; the same beveled idler-gear 21 engaging a beveled step-up-gear 22, able to be spun as mounted at its center about an axil affixed to the driver handle's fore-portion 25; the beveled step-up-gear engaging a driven-gear 23 which is ringing so encircling as fixed to 15c thus engaged with to spin the driver's shank 33; and the gearing arrangement 24, a repeat of the aforementioned arrangement 21-22, which can be repeated in bilaterally symmetrical fashion on the shank's, driven-gear's, and driving-gear's opposite side. Also illustrated in FIG. 5A and differing from figure 4, the driver-handle's fore-portion 25, due to involvement of the drive-train with the handle's fore portion, is shown configured so to have the gears of the drive-train 15b spin about axils perpendicularly affixed to the handle's fore-portion.

FIG. 5 b, a partial-cross-section side view of the driver's rear-handle-fore-portion 25, a portion of the handle which also is depicted in FIG. 5A as a front view, reveals the outside housing 40 of the fore-portion 25 and the section that was cutaway, the cutaway section still shown but in phantom; the figure helps to further illustrate the alternate manner revealed in FIG 5A for having the wheel engage the shank to spin the shank, the alternate manner being by way of through

linkage using a drive-train, the specific means illustrated being a geared-internal-drive-train. As the figure reveals, the driver-handle's housing 40 can be configured so as to wrap behind the step-up-gear 22 for use as a platform to mount the idler gear 21, but note that the FIG. 5 b illustrates only components used in attachment of an assembly's drive-wheel and none are intrinsic parts of the gripwheel assembly itself.

FIG. 6, a side plan perspective view of the gripwheel assembly shown in either FIGURES 1, 2, 3, 4, or 5A, illustrates the assembly mounted about a phantom outline of a driver tool having both alternate embodiments of the rear-driver-handle-fore-portion 25 of FIG. 4 and 25 of FIG. 5A in phantom, one superimposed over the other, while they are attached to the rest of a driver's rear-handle 27 also shown in phantom. As illustrated by virtue of FIG. 6 being representative of all the embodiments FIGURES 1, 2, 3, 4, and 5A, when the gripwheel assemblies are assembled and mounted about a tool, the embodiments have essentially the same overall form, configuration, structure, and use, barring the various physical means external to the assembly embodiments which are utilized to attach the assemblies as 30 FIGURES 1 and 2; 15a of figures 1, 2, and 4; 16 of FIGURES 1 and 4; 17 of FIGURES 2, and 4; plus 15 D of FIG. 5A; and in addition all the gripwheel embodiments while utilizing various physical means to mount the gripwheels are attached with those means in a manner so as to comply with the same required attachment method.

FIG. 7, a side plan view of a gripwheel driver assembly mounted about a driver tool, illustrates both the work end 28 and operating end 29 of the tool. As the FIG. 7 reveals, the work end of the tool is also the work end of the driver-tool's shank, 33 in FIG. 7, the work end of the driver's shank 33 in FIG. 7 also being the free end of the shank. Also revealed in FIG. 7 is the driver-tool's operating end 28 depicted as operating end of the driver-tool's handle 27. Lastly, as revealed in FIG. 7, is the orientation of the gripwheel's component parts relative both the tool's work end 28 and operating end 29, and as FIG. 7 shows, the gripwheel, 13 and 14, is positioned between 28 and 29.

FIG. 8, a bottom plan perspective view of the gripwheel driver assembly shown isolated from a driver tool, reveals the internal face 32 of the drive-wheel and a bore 31 through the wheel. As the FIG. 8 helps to reveal, both the bore 31 and internal face 32 are drive-wheel configurations which can be utilized as part of the means for enabling the wheel to be mounted ringing a driver-tool's shank so encircling engaged with the said shank, as for example, the means can comprise having the wheel's bore sized for insertion of the driver's shank while the inner surface of the bore is dressed to be fixed to the shank as 15a of FIG. 4, a manner of "engaging" the shank by "fixing" the wheel to the shank, or the means can comprise having the bore sized to loosely ring the shank so that the wheel is rotational relative the shank, the ringing being either as directly ringing the shank, as immediate of the shank, or indirectly-by-way-of-ringing-another-component-ringing-the-shank, the ringing directly or indirectly being like the afore-described manner of the guide's girdling the shank, but the wheel's ringing of the shank being while the " internal face 32" of the drive wheel is dressed to engage the shank as like 15 D in FIG. 5A, "dressed-to-engage-the-shank" meaning by manner of linking-the-wheel-as-engaging-the-shank-through-a-drive-train. But note the shank itself can be expanded to form the drive-wheel component and thereby, as being-a-part-of-the-shank, the wheel would be fixed to thus engaging the shank, such a manner of forming the wheel out of the shank itself makes a bore irrelevant. Any of the aforementioned wheel attachment manners enables the wheel to be mounted in accordance with the required method.

FIG. 9, a top plan perspective view of the gripwheel driver assembly shown isolated from a driver tool, reveals a bore 30 through the slip ring type hand-held-guide. As the FIG. 9 helps to illustrate, a bore 30 is a constant element always part of any manner used to enable the guide be mounted loosely girdling the shank of a tool so discretely independently freely-able-to-be-spun about/as-relative the shank. But when the bore is viewed in FIG. 9 it is also important to understand that the means utilized to enable the guide be freely able to be spun includes sizing of the bore so large enough with inner surface smooth enough to be loose about, as not to engage, a

shank perpendicularly inserted as spinable like an axis through the bore; and being the bore's sizing must accommodate the diameter of the component girdled, the sizing also depends upon the manner of the guide's girdling spinable the shank, as the guide may girdle either immediate the shank or by way of girdling another component girdling the shank, therefore the bore may be any one of various sizes accommodating the diameter of the girdled component, yet the guide will still be mounted as girdling in accordance with the required method.

FIG. 10, a side plan exploded view of the gripwheel driver assembly, depicts the assembly in a process of being mounted about a driver tool's shank, the process being at the final stage whereby the slip ring type hand-held-guide is being placed. An explanation of the FIG. 10 as in general terms, and which follows herein, helps exemplify how both the components, the guide and the wheel, can be mounted about a tool so to result in an attachment which is in accordance with the required method of attachment. In the FIG. 10 the slip ring type hand-held-guide 13 is being slipped into place "loosely-discretely-girdling-the-shank-33-of-the-driver-tool-and-separate-the-assembly's-drive-wheel-14" such that the guide is "discretely independently freely-able-to-be-spun unlimited in distance and direction relative both the tool's shank 33 and the assembly's drive-wheel 14". The aforementioned properties of the guide and wheel are realized because the process of attaching the guide is such that the guide is being placed-about-the-shank as rotationally unengaged to the shank, the guide separated-from-the-shank yet enclosing the shank in the fashion of a-ring-about-the-shank, the ring about the shank substantially mooring the guide freely spinable in position about the shank, the shank being as both the only portion of the tool about which the guide is moored plus being used as the axis about which the guide is able to be spun freely relative both the shank and the assembly's drive-wheel 14, the drive-wheel 14 being a discrete, independently-functional half-of-the-assembly, utilized as being engaged-to-the-shank, but also utilized-in-combination-with-the-guide as "part-of-the-assembly" thus the wheel, in order to achieve the aforementioned wheel properties, is mounted about the shank in separated-fashion-

from-the-guide which also permits the guide's aforementioned functionality, the guide and the wheel both being part of the invention consisting of the guide, the wheel, and the method of attachment which includes having the guide and wheel linearly fixed in location about the shank; the process thus leaves the components arranged in a state as prepared for being linearly fixed in location about the shank by a manner which will retain the properties of the guide and wheel as afore-described. And the process of attaching the gripwheel assembly that is illustrated in FIG. 10, and explained in generalized terms which is to follow herein, is by inserting the shank 33 through a bore 30 piercing through the guide, the bore larger in diameter than the shank and loose about the shank, the shank inserted as running perpendicularly through the guide's bore, the bore-as-about-the-shank positioned to a distance back from the shank's work end 28 such that the guide is girdling rearward of, in line with, the shank's work end, the guide being retained in the guide's location about the shank by a retainer such as retainer ring 16 of FIG. 10; and the location the guide girdles on the shank is such that juxtaposed in line forward the work side of the drive-wheel 14 FIG. 10, the drive-wheel ringing to encircle the shank but utilizing a manner of "engaging upon the shank 33 FIG. 10 to spin the shank 33", the location the wheel rings on the shank being even farther in line rearward on the shank than the guide's location from the work end 28 of the shank; and in addition, the location the wheel is ringing on the shank is also in line forward the work-end 25 of the driver's handle 27, 27 as revealed in FIG. 7, the handle's work-end being the fore-portion 25 FIG. 10 of the handle 27 revealed in FIG. 7, the handle being a "part of the tool" which is attached engaging upon and in line with the rear-end of the tool's shank 33, the rear end of the tool's shank being the opposite shank-end from the shank's work-end 28, the driver's handle having always been a "part-of-the-tool" attached to the shank to spin the shank 33, and the wheel as located is retained in-location-rearward-the-guide by virtue of the wheel also being rearward of a retainer that is forward the guide, a retainer such as retainer ring 16 of FIG. 10, and in addition the wheel also is retained either by being forward the fore-portion of the driver's handle or as being

188.2 forward another retainer such as like 16 FIG. 10 which can in addition be used forward the fore-
188.3 portion of the driver's handle, thus the driver's handle is in line rearward the drive-wheel 14, the
189 drive-wheel is in turn, juxtaposed in line rearward the guide 13, and the guide is in turn, in line
190 rearward a retainer that is in turn in line rearward the work end of the shank; and both the
191 gripwheel halves, the guide and wheel, are mounted advantageously positioned near enough each
192 other between the fore portion of the driver's handle 25 and the tool's work end 28, such that a
193 single hand is able to simultaneously grasp both the guide and drive-wheel utilizing them as bi-
193.1 longitudinally supporting halves.

194 FIG. 11 is a side plan view of a "preferred type driver tool". As the FIG. 11 is helping to
194.1 reveal, the tool is from a genre of tools having-a-handle-and-a-shank-extending-perpendicularly-
195 from-the-handle, the handle being for spinning the shank, the genre being a genre of tools from
195.1 which would come the tool of which the gripwheel driver assembly would be mounted. The tool is
196-201 shown isolated from the assembly.

202 Referring now to FIGURES 1, 2, 3, 4, 5A, 6, 7, 10, and 11, the gripwheel driver assembly
203 FIG. 3, being a means for guiding and actuating, comprises both a slip ring type hand-held-guide-
204 half 13 and a hand-operated drive-wheel-half 14, each used in conjunction with the other, both
205 mounted as the assembly about a driver-tool of genre shown in FIG. 11, such that the assembly is
206 located between the work end 28 of the tool's shank 33, as revealed in FIG. 6, and the work end of
207 the fore-portion 25 of the driver tool's handle 27 also revealed in FIG. 6. The hand-held-guide half
208 the assembly 13, as revealed in FIG. 10, is mounted about a driver-tool by method of loosely
209 discretely, axially rotatably, girdling the driver-tool's shank so as free from axially-rotatably-
209.01 engaging the tool's shank 33, the shank 33 being as axis for the rotation of the guide relative the
209.1 shank 33, the guide being as linearly retained in its location-on-the-shank, the location being
209.2 juxtaposed adjacent-in-line-forward the drive wheel half the assembly, 14 FIG. 10, which-also-

210 rings-the-shank, the guide thereby being nearer the shank's work end 28 FIG. 10 than the wheel,
211 the guide being as, aforesaid girdling, also being discretely independently freely-able-to-be-spun,
212 unlimited in distance and/or direction including relative both the driver's shank 33 being axis for
212.1 the guide's spin, and relative the assembly's drive-wheel 14 as a separate utilized and functioning
212.11 half of the assembly, and the manner of the guide's afore-described attachment is through way of
213 loosely girdling the shank, the girdling being either as "immediate" of the shank by way of having
213.01 the shank alone inserted through a bore piercing through the guide, the guide's bore having been
213.02 sized enabling a "loose" insertion of the shank as running perpendicularly through the bore, the
213.03 insertion being as like the insertion of the shank through the bore 30 in FIG. 10, or alternatively,
213.1 having the guide girdle the shank by "indirectly" as through way of a bore 30 through the guide
214 sized, as like bore 30 in FIG. 2, for loose insertion of another component 18 FIG. 2 through the
214.01 guide's bore, the guide thus loosely girdling the other component 18, but the other component 18 to
214.02 ring a driver's shank 33 FIG. 10 at the same location relative the length of the other component as
214.03 the guide does loosely girdle the other component, thus the guide will loosely girdle a driver's shank
214.04 through way of loosely girdling the other component, the shank still being as the axis for the guide's
214.1 spin. And the only means that is utilized to effect the guide's being freely-able-to-be-spun-about-a-
215 shank is that of having the guide's bore configured large enough with inner surface smooth enough
216 so as not to rotationally engage either directly or indirectly with the shank inserted as axis
216.1 perpendicularly through the guide's bore, while yet having the bore small enough to still permit the
216.2 guide to be "fixed linearly" relative the shank by retainer such as the retainer ring 16 FIG. 10 or 17
217 FIG. 2 . Now, as different from the guide, the "drive-wheel 14", revealed in FIG. 10, is mounted
217.1 about a driver-tool's shank by method of ringing such that encircling "engaged with the-tool's
217.2 shank 33", the wheel linearly retained in its location about the shank, the location being juxtaposed
218 adjacent in line rearward the guide-half-the-assembly and further away from the shank's work end
218.1 28 FIG. 10 than the guide 13 FIG. 10, which-also-girdles-the-shank, the wheel thereby forward the

218.2 fore-portion 25 of the tool's handle 27, 27 as revealed in FIG. 7, and nearer the fore-portion 25 than
218.3 the guide, the tool's handle 27, extending from plus engaging with the shank's portion emanating
218.4 from opposite-the-side-of-the-assembly-from-the-side-facing-the-shank's-work-end 28 FIG. 10, the
219 wheel being as, aforesaid engaging, also being such that will "spin the shank 33 when spun" while
219.1 the guide is being such that instead will spin discretely independent the wheel and shank when
219.11 spun, and the manner in which the wheel is mounted as said "ringing plus engaging a driver's
220 shank" is either by "directly engaging" the shank through "ringing fixed" to the shank or
220.01 alternatively by "indirectly", as engaging the shank while ringing the shank loosely, as spinable
220.02 relative the driver's shank; the loose ringing of the shank being either as immediate of the shank or
220.03 by way of ringing-another-component-ringing-the-shank, the ringing "immediate of or by way of
220.04 another component" being like the afore-described manner in which the guide girdles the shank,
220.1 but in addition the wheel "engaging" the shank through linkage utilizing a drive train, the drive
220.11 train utilized only when the wheel is utilized girdling-the-shank spinable relative the shank, the
220.2 shank being also/still as axis for the wheel's spin; and the means used to effect the wheel's
221 engagement can be any of several, for example one being a jagged bore through the wheel sized to
221.1 be press fitted about/ringing the shank 15a FIGURES 1, 2 and 4, the wheel engaging the shank
222 through being directly "fixed"-upon-the-shank, the means of fixing-the-wheel-upon-the-shank
222.1 being also the means that couples and translates the spin of the wheel to spin of said shank; or
223 another being a geared internal drive train 15D in FIG. 5A used, when in addition to the wheel's
223.1 ringing of the shank, the wheel also is spinable relative the shank, the train attached in the manner
223.2 having part the train directly "fixed"-upon-the-wheel linking the "wheel 14" to an internal-driven-
223.3 gear-15c of the train, the-internal-driven-gear of the train to be mounted ringing-a-driver's-shank
224-225 33 FIG. 5A in the manner "ringing-directly-fixed-upon-the-shank", the "wheel" engaging the
225.1 shank through being "linked-to-the-shank", the means linking-the-wheel-upon-the-shank being also
225.2 the means which couples and translates spin of the wheel to spin of said shank, the shank still as

being axis for the wheel's spim; either means resulting in the wheel's engaging the shank to spin said shank. And both the guide 13 and drive wheel 14, as like that of FIG. 6, are positioned about a driver's shank 33 FIG. 6 such that they are near enough each other so enabling a single hand to utilize both the guide and the wheel simultaneously, and the movement linearly of the guide 13 relative the shank 33 is such that the guide 13 is linearly retained in location upon/relative the shank by way of the guide's "sandwiched position" meaning that of having the guide either-as or as-not forward a retainer, but being forward-the-drive-wheel and yet rearward a retainer, retainers such as 16 FIG. 1 or 17 FIG. 2 affixed to the shank; while the drive-wheel 14 is linearly retained in location upon/relative the shank 33 by either the wheel's engagement-manner-upon-the-shank-33 which can be that of "fixing the wheel to the shank 33", or by way of the wheel's "sandwiched position" meaning having the wheel either-as or as-not rearward a retainer, but being rearward-the-guide which is yet rearward-a-retainer, retainers such as 16 FIG. 1 or 17 FIG. 2 affixed to the shank, but yet the wheel also either-as or as-not forward another retainer, such as 16 FIG. 1 or 17 FIG. 2 affixed to the shank, or, being-that-the-wheel-already-is-forward-the-fore-portion-of-the-driver's-handle 25, as just abutting the driver's handle, the handle being a part-of-the-tool already affixed to the driver's shank, thus the wheel and guide are linearly fixed in location mounted-about/relative the shank.

Referring now to FIGURES 7, 11 and 12, using a preferred method of operating the gripwheel driver assembly about a ratchet driver tool, the operator would first grasp the slip ring type hand-held-guide 13 FIG. 7 between a thumb and at least one finger of a hand, the first portion 38 FIG. 12 of hand-one 36 FIG. 12, to guide the driver's shank 33 FIG. 7 toward work, FIG. 12 OPERATION 1, and thereupon, the operator would keep the first hand portion 38 upon the guide to use the first hand portion for guiding and holding the shank against the work, and at the same time the user would rock the driver's rear handle 27 FIG. 7 counter clockwise using the second hand 37 FIG. 12 , a return stroke of the second hand in preparation for the hand's next productive

241.1 rotation, the return stroke continuing until the second hand reaches maximum rotational extension,
242 FIG. 12 OPERATION 2. While the second hand 37 FIG. 12 is moving to its maximum counter
243 clockwise extension, the operator would bear down and grip the 14 FIG. 7 hand-operated-drive-
244 wheel with the hand-one's second portion 39 FIG. 12, which remained as not-utilized-for-holding-
245 onto-the-guide 13, so to rock the shank-engaged drive-wheel 14 clockwise thus spinning the shank
246 33 clockwise, FIG. 12 OPERATION 2. The hand one portion 38 FIG. 12 holding onto the guide
246.1 would continue to hold onto the guide during all operations allowing the guide to fulfill another role
247 which is that of being means to anchor the hand-one 36 FIG. 12 in just such an advantageous
248 position to have the hand one's second portion 39 not utilized on the guide 13 grasp to spin as
249 needed the shank engaged drive-wheel 14 so to spin the shank 33. Note that when the assembly is
250 mounted about a ratchet-driver-tool, such as the tool of FIG. 11, and the tool is used on loose fitted
251 work, just holding the drive-wheel 14 FIG. 7 during return strokes of the rear-shank-handle 27
252-253 FIG. 7 will augment the ratcheting action of the driver. Spinning of the drive-wheel 14 will, on any
254 driver fitted with the assembly, further spin the shank if spinning is applied during normally
255 unproductive return-stroke periods of the driver's rear handle 27 FIG. 7. Continuing to describe
256 the gripwheel's operation, when both hands of the operator reach maximum rotated extensions in
257 their respective rotating directions, FIG. 12 OPERATION 2, the operator would then release the
257.1 hand-one second-portion 39 FIG. 12 from gripping upon the drive-wheel, FIG. 12 OPERATION 3,
258 releasing the drive-wheel 14 and thereupon, reverse 37 FIG. 12 OPERATION 3, second hand's
259 rotation-of-the-driver's-rear-handle thus to rock the handle clockwise, the second hand 37 then
260 would be the means continuing the clockwise spin of the shank by clockwise spinning the rear-
261 handle 27 which engages the shank through the driver's ratchet means. Both the hand one's
262 second-portion 39 which is released away from the drive-wheel, along with the hand one's first-
263 portion 36 which remains on the guide, would now freely reverse direction bringing along in

rotation the slip ring type hand-held-guide 13 still being held by the hand one first portion; all three would rock counter clockwise about plus above the clockwise-moving drive-wheel which is moving in the opposite direction due to linkage through the shank spun by the second hand's spinning of the driver's rear handle, FIG. 12 OPERATION 4. The hands would continue their movement in their respective directions until all arrive at their maximum extensions, the starting position FIG. 12 OPERATION 1, whereupon the hands would begin another cycle of gripwheel plus driver-tool use.

Referring now to FIGURES 1, 3, 5A, and 6, the method of attaching the assembly's drive-wheel half 14 FIG. 3 comprises having the wheel ring a driver-tool's shank to engage the shank 33 FIG. 6. In using the said attachment method, the manner in which the wheel rings the shank to engage the shank can be in either one of two ways, one being ringing the shank to engage the shank by being fixed to the shank, as for example by using 15a FIG.1 a jagged bore through the wheel to be press fitted about the shank fixing the wheel to the shank 33 FIG. 6, but note, the means used to effect the wheel's being fixed to the shank to engage the shank can be any one of many, for example another means would be to adhere the wheel 14 to the shank by glueing or another means would be to have the shank itself expanded to form the drive-wheel component. Now referring back to the wheel's manner of attachment, the other manner in which the wheel can ring the shank to engage the shank is to, as while either ringing the shank loosely so rotational as-relative/"immediate-of" the shank or ringing-the-shank-loosely-so-rotational relative the shank through way of ringing another component ringing the shank, like the afore-described indirect manner of the guide's girdling of the shank, have the wheel in addition engage the shank through linkage by way of a drive-train, a train such as the geared internal drive-train 15D in FIG. 5A. Turning attention now to the 13 FIG. 1 slip-ring-type "hand held guide", the hand-held-guide's method of attachment comprises having the guide loosely and discretely girdling the shank of a driver-tool and separate the assembly's drive-wheel so to result in the guide's being discretely independently freely-able-to-

283 be-spun, unlimited in distance and direction including relative the driver's shank as axis for the
283.1 spin and relative the assembly's drive-wheel as a separate utilized and functioning half of the
284 assembly. In using the said attachment method, the manner in which the guide is enabled to be as
285 said freely spun can be in either one of two ways, one way being to have the guide loosely girdle the
286 shank, as "immediate" of the shank, for example by utilizing 30 FIG. 1, a bore through the guide
287 used for having the driver's shank, alone, inserted perpendicularly running through the bore, the
287.01 shank loosely fitted so the guide is rotational relative the shank immediate of the guide; and the
287.1 other way being to have the guide loosely girdle the shank by way of having the shank inserted
287.2 through another component, as for example, by utilizing a bore 30 FIG. 3 through the guide, the
287.3 bore sized and used for having the other component inserted through the guide's bore, but while
287.4 the other component is inserted perpendicularly running through the guide's bore, the shank is
287.5 inserted-perpendicularly-running-through-the-other-component "passing-through-the-same-
287.51 portion-of-the-other-component", relative-the-length-of-the-other-component, as the other
287.52 component is passing through the guide's bore, thus both the shank and the other component are
287.53 inserted perpendicularly as one about the other through the guide's bore, the shank still being
287.54 loosely fitted through the guide's bore such that the guide is rotational relative the shank therefore
287.55 the guide is still freely able to be spun discretely independently about/and-as-relative the shank.
287.56 Now the means used to effect having the guide be, as said, able to be spun freely about the shank is,
288 rather than being more than one, only one means, that being having the guide mounted girdling the
289 shank as not able to engage the shank rotationally, either in direct or indirect manner, by having
289.1 the guide's only relationship with the shank, the bore, configured large enough such that the guide
289.2 will be loose about the shank, resulting in a complete unbroken separation between the guide and
289.3 shank, the separation so smooth and circular about the shank as not to enable the guide and shank
290 to engage. And lastly, the method of attaching both the guide and wheel comprises their being

linearly retained in their respective locations about the shank as aforesaid functional. In using the said attachment method, the manner in which the guide and wheel are retained can be any of several, but for example, being that the components are already retained on one side relative shank, by way of the driver's handle already being attached there, the components can be retained on the other side relative the shank by means of retainer rings such as 16 and 17 of FIG. 6. But note, retainer rings can be used on the handle side of the components also.

Referring to FIGURES 6 and 12, the operation of the assembly isn't affected by the setting of a driver's ratchet-direction-setting-means 26 FIG. 6 as the hand is merely lifted off the drive-wheel 14 FIG. 6 during drive-wheel return strokes. The hand's operating position and stance are maintained during the lift via anchoring of the hand by the griping of the hand's first portion 38 FIG. 12 upon the slip ring type hand-held-guide 13 FIG 6. The hand-held-guide 13 FIG. 6 will support the lifting of hand one's second portion 39 FIG. 12 and the return stroke operation because the guide is mounted rotationally free relative both the shank and wheel yet the movement-of-the-guide-linearly relative-the-shank-and-wheel is such that the guide is linearly fixed in the location about-the-shank/relative-both-shank-and-wheel as by the guide's movement being blocked linearly through way of the guide's sandwiched position between retainers such as 16 and 17 of FIG. 6 and/or other component parts. The guide being so retained rotational in location relative the shank is therefore able to be spun in concert with any portion of a hand 38 FIG. 12 gripping upon the guide thus the guide will "guide" and free any unencumbered, as not gripping upon the guide, second portion of the same hand 39 FIG. 12, to move rotationally as needed, bear down, grip, hold, or grip plus spin the drive-wheel 14 FIG 6.

It should be noted and understood that drawings and descriptions herein are illustrative of the gripwheel assembly's appearance and the means both depicted and described herein to effect the gripwheel's method of attachment are illustrative of types which could be utilized; therefore if a gripwheel assembly's structure is within the scope of the prescribed structure as hereinafter

claimed and attachment of the gripwheel components are within the scope of the attachment method as hereinafter claimed, then various materials, colors, and embodiment shapes plus various physical means to effect attachment of each gripwheel component may be used without departing from the spirit and scope of the invention as hereinafter claimed.